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Fostering Emotional Well-Being Through Human-Centric Design: Transforming Architecture for Honor and Belonging

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ABSTRACT

As people spend less time in natural environments due to factors such as urbanization, cultural and lifestyle changes, and technological shifts reducing the need to be outdoors, the need for humanistic architecture has become more and more prevalent in order to maintain mental well-being. Advancements are being made in the research and implementation of architectural design to address emotional needs, but to aid future research, this work aims to emphasize the importance of building structures as environments that truly support and enhance human life. Human-centric architectural design can transform rationalist and modernist paradigms into spaces that foster deep emotional connections between people and their environments. Here, "emotion" transcends aesthetic preference, encompassing complex psychological and social states that promote self-preservation, incorporate collective and individual memory, and foster a sense of belonging on both unique and shared levels. Through an analysis of architectural case studies and interdisciplinary research, this work evaluates design techniques, such as participatory processes, multi-sensory integration, and culturally responsive forms, that translate these emotions into tangible spatial experiences. By examining the interplay between human-centered design and mental health, this research demonstrates how architecture can actively support emotional well-being, addressing challenges like anxiety and disconnection in urban environments. Drawing on examples like the Maison Bordeaux and Ningbo Museum, the paper argues that architecture must prioritize embodied cognition and cultural identity to create spaces that inspire, sustain, and nurture human existence and community cohesion.

Keywords: architectural theory; humanism; International Style; Humanistic Architecture; collective memory; architectural memory; Architectural Phenomenology

INTRODUCTION

A World Health Organization (WHO) report indicates that nearly one billion people suffer from mental disorders, a number that has increased by 25% since the COVID-19 pandemic (1). It is estimated that we now occupy indoor spaces for an average of 90% of our day (2), and, due to this estimation, architecture as the vessel of daily life, can have a profound impact on emotional well-being.

Renowned architect Tadao Ando proposes that architecture is not simply an act of building a space but an expression of emotion and spirit, (3) as the most impactful designs respond to psychological needs and

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shape cultural identity (4). Elements like light and openness regulate circadian rhythms while natural elements (biophilic design) such as plants and water features can reduce cortisol and improve air quality (5). Structures which evoke the memory of our past and our shared values provide a sense of belonging and similitude. Hence, there is an unquestionable need for transformation in the logic of contemporary architectural design, toward a blueprint for a future that considers human beings and all of their emotional complexities in the construction of built spaces.

The concept of the "human" and its relationship to structure has existed throughout the history of architectural theory. The Roman architect Vitruvius, in his book *De Architectura*, related architecture to the proportions of the human body, laying the foundation for a classic aesthetic principle measured by the human form (6). During the Renaissance, Leonardo da Vinci's *Vitruvian Man* revisited this idea, portraying an idealized human body perfectly inscribed within a geometric shape. This became a representation of rationality and symmetry that shaped Renaissance architecture (7). However, even as humanism emerged, its impact on architecture was still valued for its mathematical cogency rather than its experiential persuasiveness.

Le Corbusier famously defined a house as "a machine for living," claiming that "form follows function" and "ornament is crime" (8). This disregarded physical sensation, feelings, and culture in favor of efficiency and universality and the notion of humans as functioning units in the whole of the dwelling. His idea of "The Modular" (Figure 1) (9) uses humans with a height of 1.83m to give scale to certain spaces. This design failed to acknowledge human difference and its status as one of the fundamental pillars of modern architecture has resulted in a proliferation of homogenized, soulless "International Style" buildings worldwide, creating architecture and urban spaces that eradicate identity and a sense of architectural belonging globally (Figure 2) (10, 11).

As architectural forms become standardized and easily reproduced, the complex relationship between the built environment and human health is challenged. This has turned many urban spaces into what French anthropologist Marc Augé defined as "non-places." In these environments—airports, highways, and chain hotels—which lack historical, cultural, and interpersonal accumulation, individual emotional experience is highly compressed, making it difficult to establish a sense of belonging and identity (4).

In addition to this disconnect, research has shown that mental health is adversely affected by a lack of natural light, ventilation, and natural building materials. The resulting "Sick Building Syndrome" increases the risk of anxiety, depression, and other disorders (12). Neuroscientific studies reinforce the argument that

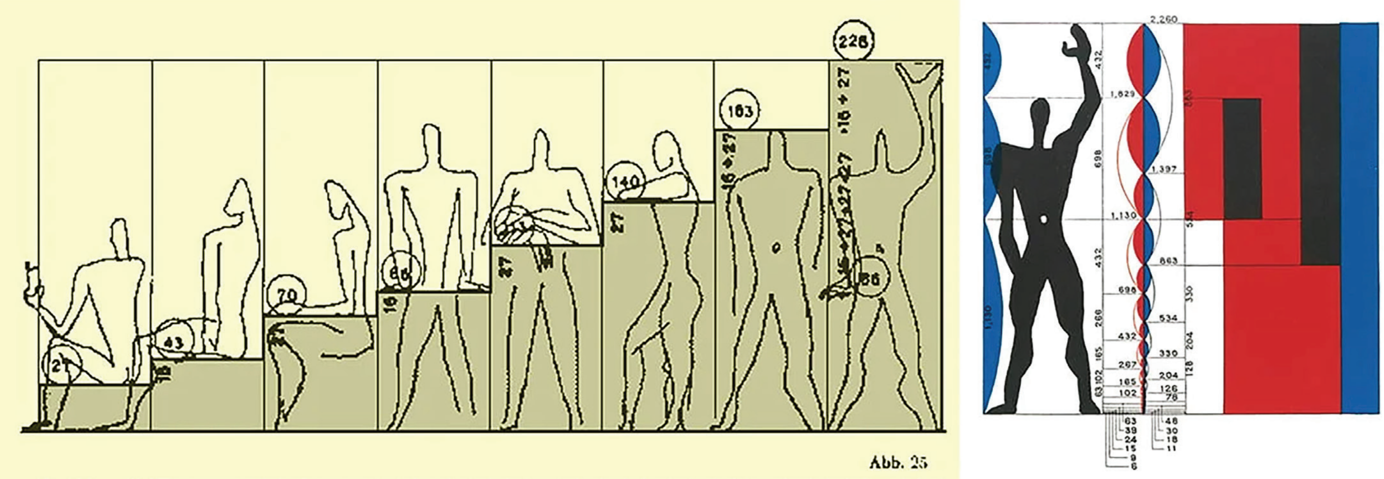

Figure 1. Le Corbusier's Modulor system of proportions. The Modulor, developed in the 1940s, is a scale of proportions based on the height of an idealized human figure (1.83 m), combining the golden ratio and human measurements. It was intended to create harmony in architecture and design by linking human dimensions to spatial composition. The system, however, privileges a standardized male body, overlooking human diversity and experiential differences in architecture. The figure is reproduced from Reference 9.

our surroundings and the constructed environment may negatively affect mental health (13). A Harvard University examination of the amygdala, the part of the brain processing emotion, revealed that, in contrast to those living in suburbs or the countryside, inhabitants of poorly designed city centers suffer from significantly higher anxiety and fear (14). These findings suggests that design ignoring emotion can be aesthetically poor and, on a deeper level, fail to recognize basic human psychological needs.

This begs the question: how can architecture be transformed from a purely functional space into a human-centric design that holds, inspires, and sustains a broad range of human emotions? “Emotion,” as defined here, transcends conventional aesthetic preference and is, rather, a complex psychological and social state that includes one’s sense of worthiness, individual as well as collective memory, and a community’s sense of belonging, independently and wholly. This process of embodiment is an “exchange” achieved through multi-sensory interaction between architecture and its participants. Human-centric architectural design uses its unique forms, materials, light, and spatial layouts to translate the abstract, broad range of emotions into tangible physical experiences. There follow three different aspects of humanistic architectural design which take into account elements of this complexity: architecture as a promoter of personal affirmation, as a social catalyst in building communities, and as a psychological tool to honor memory.

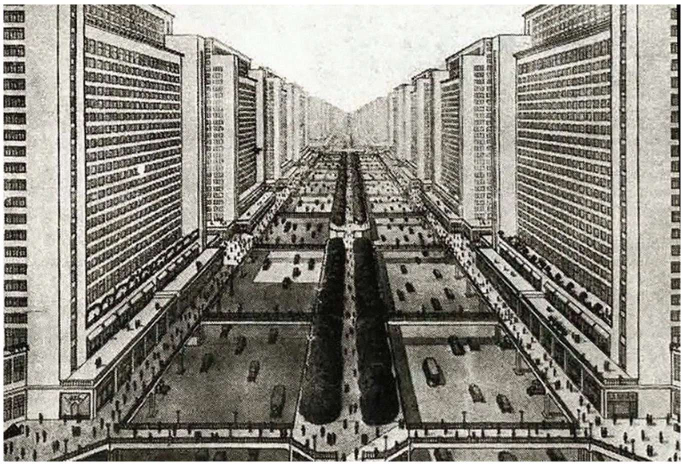

Figure 2. Le Corbusier’s “Ville Radieuse” (Radiant City) proposal. This 1920s–1930s urban plan envisioned a city composed of identical high-rise blocks arranged in a rigid grid, prioritizing efficiency, traffic flow, and rational order. Although it aimed to address overcrowding and sanitation, critics argue that such designs stripped cities of cultural diversity, human scale, and identity, contributing to the proliferation of monotonous “International Style” architecture across the globe. The figure is reproduced from Reference 11.

BUILDING FOR PEOPLE

The centrality of emotion in human-centric architecture is reflected firstly in its respect for the individual’s body and mind. Architecture is no longer a passive container for the human form; it actively responds to bodily needs, granting autonomy. Finnish architect Juhani Pallasmaa emphasized in *The Eyes of the Skin* that the body is the core of spatial perception, and that architectural design should be based on embodied cognition, creating a physical environment that affirms individual existence and elevates a sense of dignity through space, light, and materials. This design goes beyond mere functional satisfaction, using the “empowerment” of the individual to achieve a deep level of care for both body and mind (15). His theory demonstrates that dignity and morale can be conveyed through texture, scale, temperature, and light.

Maison Bordeaux, OMA’s design of a villa for a man who was paralyzed in a life-threatening car accident, is a powerful case in point. As the man requested a complex design, stating that “the house will define my world,” its core design is a massive hydraulic platform that allows the residents to move freely between three floors (Figure 3) (16), with the platform programmed to function as different rooms with varying degrees of opacity and transparency as it moves to different floors. This design grants the resident maximum control over space, thus breaking the social isolation and helplessness often associated with physical disability. The platform is not just a tool but a spiritual liberation; it uses the language of architecture to convey the message, “You deserve a complete spatial experience,” affirming the importance of the residents’ presence in the environment (17). The Gando Primary School in Burkina Faso, designed by Francis Kéré, made use of local construction skills, thereby granting community members a sense of ownership, validating their expertise, and enhancing collective dignity (18). The social housing project, Quinta Monroy, designed by ELEMENTAL in Chile, demonstrates carefulness and attention by bestowing the right to create and adapt on the intended users. Its design deliberately leaves half the building unfinished so that residents are given the power to extend the home to meet their own aesthetic and programmatic needs, making them partners in the process and fostering dynamic, evolving communities (Figure 4) (19, 20).

BUILDING FOR COMMUNITIES

Emotion is also constructed via social and cultural elements. If we consider architecture as community and tradition in material form, we arrive at the understanding that a building's structure influences the ability of a community to honor its collective history through the use of raw materials as well as in its intended use. Christian Norberg-Schulz's theory of "genius loci" emphasizes that architecture's mission is to "turn a place into a space" by respecting and strengthening local geographical and cultural characteristics. This transformation from "place" to "space" is achieved by building an emotional bond between individuals and a specific location, rooted in daily routine, stories, and the shared memories of the built environment. The architectural design language materializes these social emotions while the use of physical components, whether through spolia (the reuse of elements from older buildings in newer construction) or revivalism (the use of elements that echo the style of a previous architectural era), strengthens cultural identity and a sense of collective belonging (21).

To give two examples: the Dongziguan Village in Hangzhou evokes a strong sense of cultural identity and collaborative memory among villagers by reinterpreting traditional residential forms. The open courtyards and semi-public spaces together have helped rebuild neighborly relationships by shaping residents' joined activities, fostering a strong sense of community, forming a junction of the old and new town with the aim of providing quality housing for relocalized farmers while maintaining their original lifestyle of collective living (22). The Grand Sheikh Zayed Mosque of Abu Dhabi embodies the UAE as a symbol of Islamic art, lineage, and heritage (Figure 5) (23). It serves as a gathering place for religion, education, and cultural understanding, and chronicles the rich history of the Islamic world. Every detail is meticulously crafted, each material attentively chosen, showcasing a deep appreciation for local artistry. Its organization allows visitors to sit, walk, play, conversate, smell, feel and

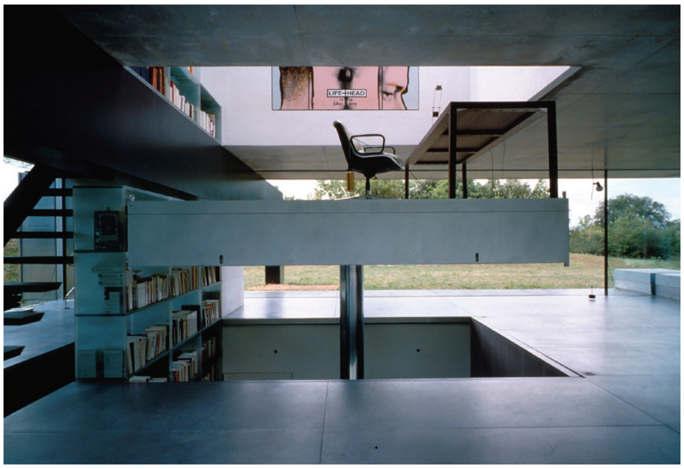

Figure 3. Maison Bordeaux, France. Designed by Rem Koolhaas and OMA in 1998, Maison Bordeaux was commissioned by a client who became paralyzed after a car accident. At its core is a hydraulic platform that moves between three floors, functioning as both circulation and flexible living space. The platform, shifting between roles as study, terrace, or room divider, grants the client spatial freedom and control. This design transforms accessibility into a profound architectural statement on dignity and agency. The figure is reproduced from Reference 16.

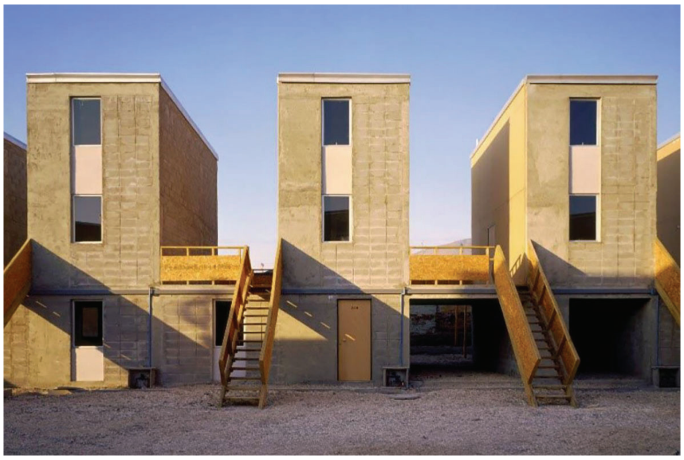

Figure 4. Quinta Monroy Housing Project, Iquique, Chile. Designed by Alejandro Aravena and ELEMENTAL in 2003, Quinta Monroy provided low-income families with affordable starter homes that deliberately left half of the structure unfinished. This approach empowered residents to expand and customize their houses over time, making them co-creators of their living environment and fostering a sense of ownership and community. The figure is reproduced from Reference 20.

hear as they weave through the labyrinth of its carefully considered passageways. It is a space that ensures against erasure, nurtures the remembrance of the past, and serves as an important reminder of all that binds Islamic architecture and tradition (24).

BUILDING FOR MEMORY

Architectural phenomenology evokes not only sight, but the sounds, smells and feelings associated with the human experience in a space and can summon collective and individual memory in connection with the physical environment. Architectural space guides human experience through its dynamic organization and multi-sensory elements, creating an emotional "narrative" or "path." As Peter Zumthor says, a building is a large instrument that collects and amplifies sounds, providing a sensory journey through its form and materials. A carefully controlled sequence of light, density, temperature, and sound will anticipate and guide the user's emotional flow. This process builds a "mental map" within the building, allowing the user to experience an emotional progression as they move through the space (25).

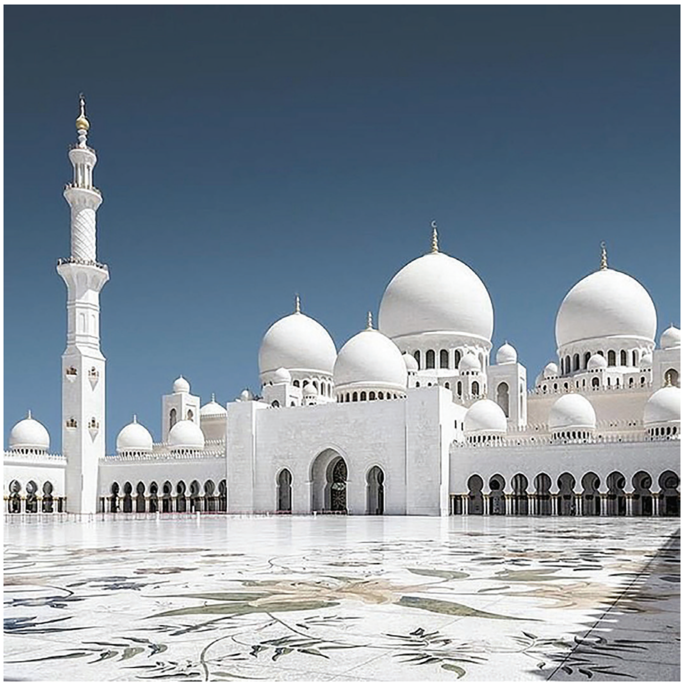

Figure 5. Sheikh Zayed Grand Mosque, Abu Dhabi, UAE. Completed in 2007, the Sheikh Zayed Grand Mosque draws upon Islamic architectural traditions while incorporating local materials and spatial symbolism. Its use of courtyards, domes, and ornamental details connects worshippers to centuries of cultural memory, while its monumental scale reflects a unifying vision of community and faith. The figure is reproduced from Reference 23.

Zumthor's Therme Vals is a perfect example. Built in 1996 as a hotel and spa, its design deliberately makes the entrance dark and narrow, forcing visitors into a state of introspection. Subsequently, by guiding them into different pools and cleverly using skylights, stone textures, and the sound of water, it creates an emotional path from oppression to release, from darkness to light, culminating in a tranquil, sacred experience (Figure 6) (26, 27). Diller Scofidio + Renfro's Blur Building takes this a step further. By producing fog, it blurs traditional definitions of architecture by intentionally depriving visitors of trust in their sight. The design forces them to rely on hearing, touch, and balance to explore the space, elevating the architectural experience to a philosophical level. This sensory "recalibration" compels visitors to re-establish their connection with the space and each other, leading to profound sensations and emotions (Figure 7) (28, 29).

The Ningbo Museum, designed by Wang Shu, uses old bricks and tiles salvaged from demolished historic buildings in local villages to transmit collective memory (Figure 8) (30). Each brick and tile, carrying its own history, allows visitors to feel the significance of that history and experience a sense of connection. This

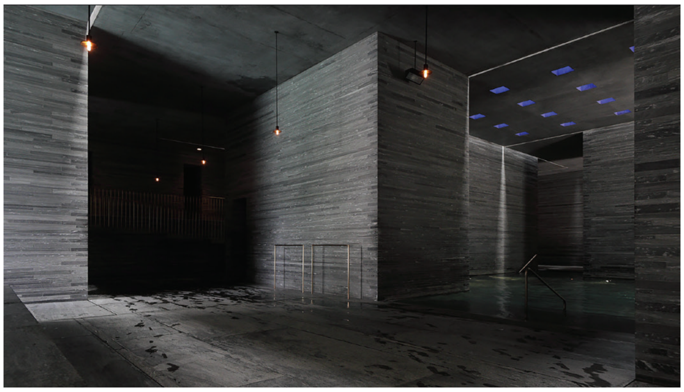

Figure 6. Therme Vals, Switzerland. Designed by Peter Zumthor and completed in 1996, Therme Vals combines stone, water, and light to create an immersive sensory experience. The deliberate use of darkness, narrow passages, and dramatic skylights leads visitors through a spatial journey from compression to release, evoking tranquility and introspection. The figure is reproduced from Reference 27.

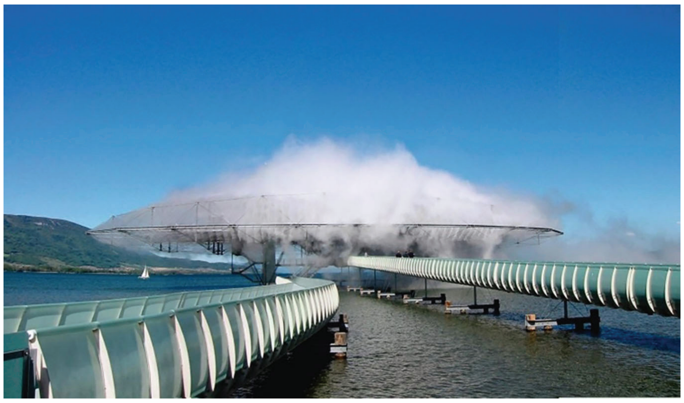

Figure 7. Blur Building, Yverdon-les-Bains, Switzerland. Designed by Diller Scofidio + Renfro for the Swiss Expo 2002, the Blur Building uses a system of high-pressure nozzles to create an artificial cloud suspended over Lake Neuchâtel. By obscuring vision and dissolving architectural form into atmosphere, the building compels visitors to rely on sound, touch, and bodily perception. This sensory recalibration challenges the primacy of vision in architecture and redefines the relationship between humans, space, and environment. The figure is reproduced from Reference 29.

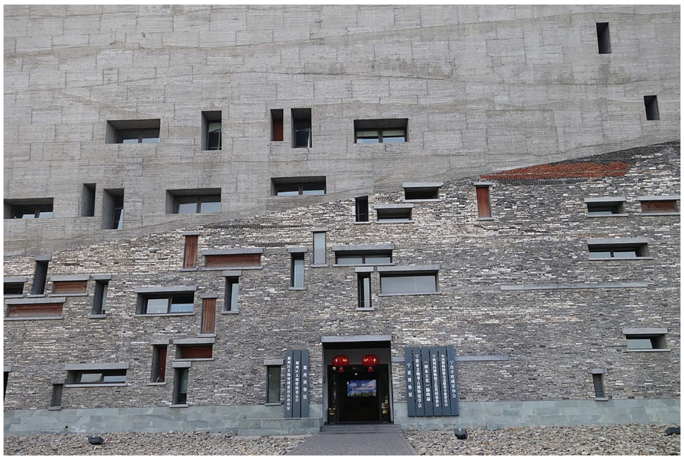

Figure 8. Ningbo Museum, Ningbo, China. Designed by Wang Shu and completed in 2008, the Ningbo Museum incorporates old bricks and tiles salvaged from demolished local villages. This reuse of vernacular materials embeds layers of history and memory into the building, encouraging visitors to connect emotionally with the past. Beyond aesthetics, the design exemplifies respect for cultural continuity and collective identity. The figure is reproduced from Reference 30.

reuse of old materials is not just an aesthetic innovation but an outward consideration of memory and feeling (31). These designs show that architecture can be more than simply a structure, but a meeting place of culture, history, and emotion.

In making use of these aspects, architecture bears witness to the passage of time. Through conversations which collect personal and collective memories, the emotional and cultural layers of the site are developed through memory-driven choices. These narratives can then be translated through materials, atmospheres, and spatial sequences to provide a link between the environment and individual and shared experience.

REFLECTION AND OUTLOOK

Considering the advances that have been made on scientific, technical, as well as technological levels since Vitruvius' or even Le Corbusier's time, modern architecture presents us with the opportunity to revise future structural plans to incorporate human well-being into the physical environments that we inhabit on a day-to-day basis. As the planet becomes more and more populated, adding almost 6 billion bodies to a world population of 2.3 billion since World War II, an architectural mindset change has become increasingly urgent (32). Despite the positive impact of certain projects that explore emotion in architecture, there are challenges, including commercialization in real estate development which prioritizes marketability over distinctiveness. In such designs, the priority is often to pack as many units into the available space as possible. Feeling is subservient, relying only on superficial elements of color, ornament, and material to momentarily thrill the viewer. This is simply commodification of the human intention of human-centric design (33).

Furthermore, there are few quantitative benchmarks. In 1990, the Americans with Disabilities Act (ADA) was published as a guide to designing spaces better meeting the needs of handicapped individuals. Although a great step forward in human-centric design, enhancing the mobility and emotional well-being of disabled people as they navigate buildings, a trip through the NYC transit system quickly gives a reminder that only 23% of all stations are fully accessible (34). Its implementation has had little impact on any true advances toward humanistic architecture, whether designed for those with disabilities or without.

In 2014, the WELL Building Standard was initiated, which seeks to improve human habitation by measuring the health and well-being of occupants. It quantifies the provision of air and light available in the space, and promotes mental health programs, including quarterly education on mental health, annual training, weekly mindfulness sessions, healthy work hours, and places for relaxation (34). While an improvement in employing architecture to resolve mental health issues, these benchmarks only skim the surface of all that is important in incorporating human emotion in architecture. In spite of its adeptness at measuring physical quantifiable metrics, the certification program struggles in capturing complex, subjective “broad emotions,” for example, “sacredness” as at Therme Vals or “belonging” as evoked by the Ningbo Museum with its walls of tiles and bricks. There is no measuring these using spreadsheets. In addition, when compared with well-established standards like Leadership in Energy and Environmental Design (LEED), the WELL Building Standard remains niche. Data from the International WELL Building Institute (IWBI) suggests that, as of 2023, approximately 14,000 projects worldwide have received or are pursuing WELL certification, compared with over 100,000 projects certified under LEED (36) (37). This indicates that while the concept of healthy buildings is gaining recognition, its levels of adoption and influence remain low, failing to achieve a deep, universal impact on the architectural industry.

CONCLUSION

In an age of exploding population, accelerating trends toward time indoors, and ever-mounting mental health issues, the implementation of human-centered design to address emotional needs is crucial. Architectural processes must continue to explore the connection between emotion and space and give a sincere response to the urgent necessity for humanistic care. New focus and emphasis on (as well as support for) architectural initiatives are required to develop and, moreover, improve upon that which has already been established if we are to keep pace with the fast-tracked phases of today’s existence. It is critical that structural projects conceived for the simple purpose of financial gain be left behind to draft a future that truly considers its human inhabitants with all of their individual, remarkable, and collective needs. Design must consider the societal toll of the end result of all that we construct. Only when the balance between architectural rationality and sensibility is met can our physical world truly become a shelter for humanity with compassion, memory, and soul.

CONFLICT OF INTEREST

The author declares no conflicts of interest related to this work.

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